END-OF-LIFE HEART FAILURE EDUCATION WITH STAFF NURSES; A QUALITY IMPROVEMENT PROJECT

A

PROJECT

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Carisa M. Battah, B.S.

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Abstract

Heart failure (HF) is a serious diagnosis and a major public health concern. The symptoms can be exhausting and can vary from person to person with periods of acute exacerbations requiring hospital admission. It is important for hospital staff nurses to be able to speak with knowledge and comfort about end-of-life planning. The purpose of this quality improvement project was to increase nurses' awareness of the functional classification systems of HF, options and timing for palliative care, and describe nurses' intent to use the information in practice. Nurses reported planning on using the information to *"Be more Sensitive and Listen."* The prevailing theme to barriers to implementing this into practice was *"Not enough time and discomfort."* Nurses who were comfortable having end-of-life discussions did not feel they had enough time, and those who were not comfortable did not engage because of discomfort toward the topic. Furthermore, recommendations from this study were the addition of a supportive palliative care team to manage patients with HF.

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End-of-life Heart Failure Education

Heart failure is a serious diagnosis and major public health concern. Many understand the severity of a cancer diagnosis and know what to expect; a diagnosis of heart failure (HF) is more ambiguous. The symptoms of HF can be limiting and vary from person to person, with periods of acute exacerbations requiring hospital admission. Symptoms that patients with heart failure experience include dyspnea on exertion, orthopnea, fatigue, ankle swelling, and dysrhythmias (National Clinical Guideline Centre, 2010).

Heart failure related dysrhythmias can lead to sudden death. The gravity of such a scenario makes educating patients about disease progress and prognosis difficult for providers. Moreover, half the patients diagnosed with heart failure will die within five years of their diagnosis (Go et al., 2012). With heart disease as the leading cause of death in this country, it is important for providers to knowledgeably speak with comfort about end-of-life planning. HF patients need to be given evidence-based information about their progressive condition and the opportunity to discuss options for palliative care.

Background and Significance

Prevalence

Heart failure is significant since it affects so many people in the United States. Heart disease and cancer mortality accounted for 47.9% of all deaths in the United States in 2009, with heart failure contributing to the cause of death in one out of nine cases (Kochanek, Xu, Murphy, Miniño, & Kung, 2009). Over five million persons in the United States live with heart failure (Bui, Horwich, & Fonarow, 2011) and heart disease is the leading cause of death in the United States (Kochanek et al., 2009). It is estimated that by 2030 there will be over eight

million persons in the United States living with heart failure. Given gravity and prevalence, this accounts for approximately one out of every 33 people living with HF (Heidenreich et al., 2013). Using the population data from the 2008 U.S. Census and the 1999–2008 National Health and Nutrition Examination Survey, there will be a 46% increase in the prevalence of people living with HF from 2012-2030 (Heidenreich et al., 2013). The costs associated with caring for patients with HF are significant and will continue to increase with an aging population as half of all patients who have heart failure are over 65 years of age (Heidenreich et al., 2013).

Medical Costs and Nursing Impact on Problem

Correlated to the prevalence of the disease is the high cost of care. There are approximately 650,000 new cases of HF diagnosed every year (Yancy et al., 2013). The costs of medical care (direct and indirect) are expected to increase from $30.7 billion to $69.8 billion from 2012-2030 with 80% of the costs related to hospitalization (Heidenreich et al., 2013). If one assumes that the total cost of cardiac care treatment for HF patients is only due to HF and no other co-morbidities, the projected costs will increase three-fold by 2030 with projected direct costs totaling $160 billion (Heidenreich et al., 2013). If patients with end-stage heart failure are given nurse-led education about palliative care options, then they can potentially improve their own symptom management and avoid readmission to the hospital. This important information delivered by nurses can improve quality of care and significantly reduce healthcare expenditure. Costs associated with caring for heart failure patients are significant as older Americans are hospitalized for heart failure more than any other condition (Heidenreich et al., 2013).

The role of a primary nurse in the hospital setting is to assess, evaluate, and advocate for a patient. Part of their responsibility is planning care, coordinating with other services, and communicating to other multidisciplinary team members. A staff nurse spends a significant portion of their shift directly interacting with the patient and their family members. This provides the opportunity to listen empathetically, learn patient preferences, and assist in guiding patient-centered decision making. Nurses are in an excellent position to provide education and support patients as they make end-of-life care decisions. The primary nurse is in a unique position to build rapport with the patients, families and friends. This puts them in a position to influence a patient's education about goals of care including palliative care options in end-stage heart failure. Despite the limited time that nurses may have to discuss these issues, better education will sharpen their tools and make the time spent more effective. Many medical practitioners usually do not have enough time to spend at the bedside to have such difficult conversations, and patients often need extra support as they process news about HF prognosis that is poor.

Project Purpose

The purpose of this quality improvement (QI) project was to increase nurses' knowledge of palliative care options for heart failure patients with advanced disease. Specific aims were to:

1) Increase nurses' knowledge of different functional classification systems used for patients diagnosed with heart failure.
2) Increase nurses' knowledge of options and timing for palliative care in order to determine best practices for patients living with the challenges and uncertainties of chronic heart failure.

3) Describe nurses' intent to use the educational information in practice and describe perceived barriers to use.

Assisting patients in understanding the nature of their disease and its likely trajectory is a needed and caring best practice in healthcare. Patients suffering from end-stage HF could benefit from information on palliative care options which may lead to more conservative (and less expensive treatment options). Currently, HF is the second most common reason for entering hospice care (Heidenreich et al., 2013). It is important to give patients living with and dying from heart failure choices on how to navigate the final chapter of their lives.

Literature Review

Classification of Heart Failure

Heart failure is caused by structural or functional abnormalities of the heart that result in the inability of the ventricles to fill or eject blood effectively to the rest of the body (American College of Cardiology Foundation/American Heart Association, 2013). Heart failure is diagnosed based on a set of complex clinical symptoms, B-type natriuretic peptides (BNP and NT-proBNP), and echocardiography (National Clinical Guideline Centre, 2010). The New York Heart Association (NYHA) functional classification system often used by practitioners to assess the severity of heart failure (Appendix A). This classification system is broken down into four subjective categories and four objective categories determined by a health care provider. A patient is classified as class I if normal physical activity, such as walking, does not cause shortness of breath, fatigue, or palpations. Class II symptoms include shortness of breath, fatigue, and palpations when walking but asymptomatic at rest. A patient is classified as class III if they are comfortable at rest but unable to do anything more, such as walking, without

symptoms. Class IV symptoms include the inability to carry on any physical activity and are symptomatic at rest (American Heart Association, 2015). The second part of the NYHA classification is the objective assessment classified as A, B, C, D and this is determined by the healthcare provider's knowledge of the severity of cardiovascular disease (Appendix A).

The American College of Cardiology Foundation/ American Heart Association (ACCF/AHA) stage HF into four categories (A, B, C, & D) based on risk factors and cardiac structural abnormalities (Yancy et al., 2013). Stage A is risk for HF without structural heart disease or symptoms of HF. Stage B is structural heart disease without signs and symptoms of HF. Stage C is structural heart disease with prior or current symptoms of HF and stage D is refractory HF requiring specialized intervention (Yancy et al., 2013).

Patients need to be consistently evaluated for symptoms of HF and assessed for functionality in daily activities. Heart failure patients are typically symptomatic for quite some time before being evaluated and receiving a diagnosis of heart failure (Goodlin, Quill, & Arnold, 2008). Symptoms of heart failure cause significant distress to the patient and their family members. The diagnosis of HF and the changes that take place due to fatigue, activity intolerance, and medication regimes result in significant lifestyle changes and changes in relationships at work and among family members. These changes can be overwhelming and shocking to a patient living with this diagnosis.

Jones, Nowels, Sudore, Ahluwalia, & Bekelman, (2015) studied 33 patients with class II-IV heart failure to identify how they and their caregivers perceived their future. The participants described four pivotal transitions "1) the shock of being diagnosed with heart failure (HF), 2) learning to adjust life with HF, 3) reframing and taking control of one's life and 4) understanding

and accepting that death is inevitable" (p. 180). These transitions are very important in identifying and anticipating what education needs the patient might have about palliative care. Individuals living with end-stage HF do not receive the education they need about palliative care options. End-of-life care received is often suboptimal. Targeted education, communication, and addressing psychosocial needs of HF patients and their families could lead to an easier transition to the final life stages (Ivany & While, 2013).

One very specific educational need for nurses and patients is understanding the risk of sudden cardiac death secondary to deadly dysrhythmias; in patients with end-stage heart failure. The possibility of sudden cardiac death should be acknowledged at the time of HF diagnosis as part of patient and family education (Goodlin et al., 2008). This gives the patient the opportunity to think about how they want to manage that risk. There are many challenges clinicians face when educating patients about HF. Some of the challenges include the amount of information that needs to be presented, the amount of time the clinician has with the patient, the ability of the patient to interpret data and statistics, the uncertainty of the disease trajectory, and the cognitive abilities of the patient (Goodlin et al., 2008).

Palliative Care for End-Stage Heart Failure

Palliative care (PC) is defined by the World Health Organization (WHO) as the approach that improves the quality of life of patients and their families facing problems associated with life-threatening illness, through prevention and relief of suffering (physical, psychosocial and spiritual) (WHO, 2015). Palliative care options for HF patients should come early in the care process in coordination with the cardiologist and other specialists (Goodlin, 2009). PC provided early places the patient at the center of the decision-making process. Hospice education and

end-of-life planning would be a critical step in every assessment of patients with advanced cardiovascular disease (Howlett et al., 2010).

Heart Failure Education

There is evidence that integrating education about the possibility of sudden cardiac arrest and a shortened length of life by HF improves the patient's feeling of power in decision making as they know what to expect and experience less shock in life planning (Goodlin, 2009). There is an obvious need for nurses to be prepared to discuss issues of eventual death openly acknowledging the uncertainty of their disease (Goodlin, 2009). Many nurses lack the resources needed to provide excellent palliative care because they lack the knowledge and skills to effectively discuss palliative care options.

Palliation includes care for individuals with life-limiting illnesses such as heart failure. When the time comes to have a conversation about end-of-life care due to a poor prognosis, as that of advanced HF, there are two things that will determine how the conversation goes 1) how much the patient knows about HF and, 2) how the news is presented (Goodlin et al., 2008). Given the uncertain course of the disease, there will be a time when tough conversations ensue. These difficult conversations can challenge clinicians who need to present material in a way the patient and family can understand. If a patient is not willing to have an end-of-life conversation, the patient could designate someone to participate on their behalf in the decision-making process (Goodlin et al., 2008). These conversations should be documented in an electronic medical record as the patient preference is essential to end-of-life planning and care (Howlett et al., 2010).

Open ended questions are useful in starting end-of-life care discussions. Each person is different and handles challenges uniquely. One way to assess patient's understanding of their HF condition is to ask them to describe what it is like to live with HF. This will open the conversation and include the patient in developing a plan for what to do next. Talking about end-of-life can be difficult and timing is key to having a successful conversation. Patients are best suited to discuss end-of-life care when they are not going through an acute crisis and these conversations are best had in the clinic when HF symptoms are stable. There is little research available regarding end-of-life discussions for end-stage heart disease in the hospital, however, there is research that shows many HF palliative care referrals come from the hospital. There may be many reasons for this including the difficult-to-read trajectory of the disease and possibly the lack of adequate education about HF.

Cheung et al. (2013) did a retrospective study aimed at describing the patterns of referral and enrollment in hospice for HF (7,930 patients) versus cancer (7,565 patients) using patients who were enrolled in the Pharmaceutical Assistance Contract for the Elderly (PACE) program in Pennsylvania between the years 1997-2004. Twenty percent of HF patients were referred and admitted to hospice care; and 51% of cancer patients (Cheung et al., 2013). The HF patients were more likely to be older, female, and have comorbidities (cognitive disorder, diabetes, and kidney disease) than the cancer patients (Cheung et al., 2013). Heart failure patients were also more likely to be referred from the hospital and nursing facilities rather than home; while cancer patients were referred more from home (Cheung et al., 2013). Wheelan et al. (2012) evaluated hospital referrals to hospice for HF and found that individuals who were admitted tended to be older, female, and had comorbidities (renal insufficiency, anemia,

valvular disease, and depression). The utilization of hospice care was low (2.5%) of patients admitted for HF (Wheelan et al., 2012). This could be for many reasons including physicians not risk stratifying patients, not familiar with mortality risk models, not comfortable with results of HF, or patient preferences (not wanting hospice services) (Wheelan et al., 2012). Hospice services are under-utilized for HF patients. Patients need more education about palliative care options earlier in their diagnosis to overcome and accept the shock of diagnosis, understand the disease and living with the ups and downs, and realizing that death is inevitable. Nurses are in an excellent position to educate and support patients and family members in this journey.

Methods

Project Design

This quality improvement (QI) project was aimed at increasing nurses' knowledge of palliative care options in advanced HF using the *Plan-Do-Check-Act framework* (Appendix B). There are four steps to the systematic cyclical process of *Plan-Do-Check-Act* (Holly, 2014). The first step is to identify the problem. In this QI project, the problem was determined to be lack of educational opportunities for staff nurses regarding HF and palliative care needs for patients with advanced HF. The remaining steps, two through four, will be discussed as this process unfolded.

Ethical Considerations/IRB Research Approval

Consent forms were distributed for each participant to read prior to study involvement. Those who chose to participate were asked to indicate their consent in survey completion (Appendix C). Approval to conduct this QI project was granted as exempt from the UAA Institutional Review Board (Appendix D) and support from the hospital was obtained included

in a letter of support (Appendix E). Lastly, the surveys were secured in a double locked folder to maintain participant privacy and confidentiality.

Participants and Setting

Participants in this QI project included a nonprobability convenience sampling of 26 staff nurses at an urban hospital in the Northwest. Inclusion criteria consisted of staff nurses who voluntarily agreed to participate and attended one of the scheduled presentations. To obtain participants, flyers advertising the sessions were distributed to every unit educator (cardiovascular, medical, orthopedic, progressive care, intensive care, and the nurse residency coordinator) with details of time, date, and nature of the training. Additionally, unit managers were notified directly by e-mail and in-person to promote the educational opportunities to their staff nurses. They were encouraged to share the information, and a reminder e-mail was sent to all unit managers one week prior to the presentations.

'Plan'

Phase one initial research 'Plan' focused on determining best practices for educating staff nurses. Topics researched were 1) Living with Heart Failure (definition, symptoms, medications, medical management, obesity, fluid restrictions, the importance of managing comorbidities, daily weight, and diet) 2) Chronic Disease Management and 3) Understanding Palliative Care (how to have patient-centered conversations). The Gold Standard Framework was used to guide delivery and discussion of palliative care options. These focus areas are communication, coordination of care, control of symptoms, continuity of care, continued learning for professionals, caregiver support, and care for the dying patient (Ivany & While,

2013). This framework was integrated into the educational training and used during case study discussions.

A one-hour educational training was planned to deliver needed information to staff nurses at the hospital. All participants (*N* = 26) were asked to complete a pre-test (Appendix F), and a post-test (Appendix G) to evaluate effectiveness of the education delivered. Surveys were designed based on available evidence and reviewed for content and face validity by project committee members. The educational presentations and resulting dialogue amongst staff nurses about end-stage HF and palliative care were presented using case studies (Appendices H and I).

'Do'

The second phase 'Do' involved the delivery of evidence-based information to educate staff nurses about HF and palliative care (Appendix J). Two separate case studies (Appendices H and I) were used to present the information in a large group setting. Overall, three educational sessions commenced, consisting of nine participants, eight participants, and nine participants. Each 60-minute session was carried out within a designated conference room at the hospital. Food provided an added incentive for staff attendance. Two of the sessions coincided with the staff meeting for the cardiovascular unit. Interestingly, this unit receives the highest admissions of end-stage HF patients. Session times varied to ensure day and night shift nurses were given optimal opportunities to attend the planned offerings.

All attending nurses were given the opportunity to role-play the primary nurse role and the patient or family member role. Participants were then given time to reflect on their role as a nurse or family member before they took on that role, and before they undertook the

activity. Subsequently, they were allowed time to reflect on their role experience after the case study was complete. It has been well documented in nursing literature that reflection can be effectively used as an educational strategy to support communication skills, emotional competence, intellectual growth, and confidence in nursing practice (Horton-Deutsch & Sherwood, 2008).

Reflection requires higher order cognitive thinking. Internal dialogue and reflection is important for self-awareness but dialogue with others about a practice topic is essential for eliciting ideas and reflection about practice (Dewing, 2010). By using dialogue as an active learning strategy, participants engaged in deep learning by analyzing, synthesizing and evaluating their actions (Dewing, 2010). They were given the opportunity to have a conversation about end-stage HF and palliative care education in a safe environment, and then evaluate how that conversation went. Attendees had 10 minutes for each case study to role-play how they would support the patient during an end-of-life discussion. Case studies facilitated active learning by developing problem solving and critical thinking skills (Popil, 2011). They were based on real life scenarios, with data to be analyzed, and an open-ended question or problem discussed for possible solution (Popil, 2011).

Andragogy is a theoretical framework for adult learners that states that adult learners prefer self-directed learning. They have past experiences that should be considered when planning learning activities and readiness to learn is based on a ‘need to know’ (Ross-Gordon, 2011). Information presented should be applicable to their jobs and learning should be problem-centered rather than task centered. Also, adult learners possess a high degree of internal motivation (Ross-Gordon, 2011). Given the specific needs of adult learners, case

studies; as an active learning strategy; engaged learners (nurses) in this process of knowledge development surrounding end-stage heart failure.

'Check'

The third phase or 'Check' was accomplished by analyzing the pre and post-test results to see if the objectives of the planning phase were met. This phase also included analyzing the narrative comments of each participant. A non-categorical qualitative research approach called interpretive description was used to understand nurses' application of knowledge (HF and palliative care) to practice (Thorne, Kirkham & MacDonald-Emes, 1997). This method recognizes both biological and psychosocial aspects as important to human health. This analytical process links what was learned from this study to existing knowledge, creating a new synthesized interpretation of nurses understanding of end-stage HF and palliative care.

'Act'

Lastly, the final 'Act' phase is a process of review, refinement, and improvement. The findings have been disseminated to the administrative team at the hospital with recommendations and description of nurses' intent to use the information in practice. Recommendations and description of nurses' intent to use the information in practice will follow. Implications for practice based on study findings that support both nurses and nursing students' information needs on palliative care options have evolved into the action phase of this study project phase.

Analysis and Findings

Findings will be discussed in terms of demographics and statistical findings as well as descriptive narrative analysis. All findings were reviewed by advising faculty to support the

accuracy of results reflecting validity of findings reported. To increase rigor and confidence in the themes that were identified, committee members reviewed each individuals comments to ensure the themes were representative of the sample and each participants voice was heard (Ryan-Nicholls & Will, 2009; De Chesnay, 2014). Through an interpretive descriptive analyses process outlined by Thorne et al. (1997), four themes emerged, *"Be more Sensitive and Listen," "Not enough time and discomfort," "Need for a palliative care support team,"* and *"Listen and meet the patients where they are."*

A statistical analysis of the educational intervention demonstrated a change in the average score from pre to posttest. The median score improved after the educational intervention. This finding is supportive of the educational intervention as a strategy that had increased nurses' knowledge on end-stage heart failure and palliative care.

Statistical Analysis

The study participants, staff nurses (*N* = 26), attended a one-hour interactive educational training on HF and palliative care. They completed both a pre-test and a post-test, composed of the same questions. Data were entered into SPSS®, version 22 for statistical analysis. The educational intervention was measured on how many answers were correct on the pretest compared to the posttest to determine if there was a difference. A score of 5 indicated that the participant answered all questions correctly. The initial baseline showed an average score of 3.65 (*SD* = .797) on the pretest and after the educational intervention the average increased to 4.11 (*SD* = .95).

The data were non-normal, requiring use of a non-parametric alternative. After assuring the data met the assumptions of symmetry of difference scores around the median, a Wilcoxon

Signed Rank test was conducted. The posttest scores were significantly higher (*Mdn* = 4), *z* = -2.13, p = .034, r = .42 than the pretest scores (*Mdn* = 3), suggesting the educational intervention did impact knowledge of end-stage HF and palliative care as most people did better on the posttest compared to the pretest.

Three participants had higher scores on the pretest compared to the posttest, twelve scored better on the posttest compared to the pre-test, and eleven participants had no change in their scores. Many individuals did better on the posttest than the pretest, but a few individuals answered questions right on the pretest and then wrong on the posttest. Each of the five questions was analyzed and the total correct answers for each question were reported in percentages (Table 1). There was a slight improvement (between 7-8%) of correct answers for questions 1, 4, and 5; and no change in correct answers for question 2. For question 3 there was a 19% improvement which is most likely because the topic was used for one of the case studies during the teaching intervention and also more time was spent debriefing the topic.

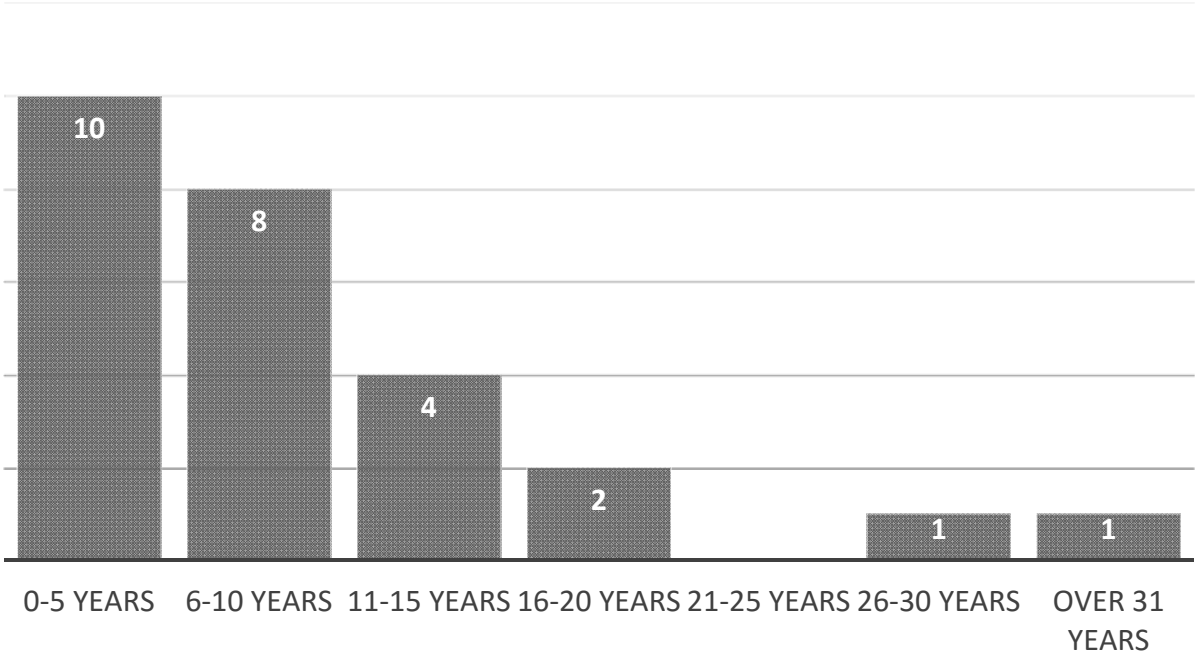
Table 1

Percentage of Correct Answers for Pretest versus Posttest (N = 26)

Question	Pretest % correct (*n*)	Posttest % correct (*n*)	Change % increase
Expected to die in days	88 (23)	96 (25)	8
Adequate HF education	92 (24)	92 (24)	0
Inactivate ICD	50 (13)	69 (18)	19
Advanced directives	46 (12)	53 (14)	7
DNR/DNI status	92 (24)	100 (26)	8

The participants had a wide range of nursing experience; from 0-35 years (Figure 1) with the majority of nurses having less than five years of experience (*N* = 10), eight of those nurses having less than 1 year of experience. This is expected given that one session was attended by the nurse residency program class. Eight nurses had 6-10 years of experience, five nurses with 11-15 years, two with 16-20 years, one from 26-30 years, and one nurse with over 35 years of experience (Figure 1). Out of the 26 participants, 11 indicated they had previous end-of-life experience, however three of those participants expressed "minimal education" or "just in nursing school." The remainder of participants had no previous education on the topic and one individual left this question blank.

Figure 1. Years of Nursing Experience



Narrative Analysis

Overall themes and supporting statements (Appendix K) have emerged from the narrative responses describing nurses' plan to incorporate this new information into practice. Project findings illustrated barriers, as well as recommendations for change, support for a palliative care team, and a final message to *"listen and meet the patient where they are."* Through this study project, a need for further information and education on the topic was uncovered. Furthermore, nurses voiced a strong interest in using this information to change their practice to support and care for HF patients and their families.

Nurses' plan to incorporate information

"Be more Sensitive and Listen" – This theme described how the nurses in this study had planned to use the information to improve their knowledge about the progression of end-stage heart failure and palliative care options. They wanted to become more comfortable initiating difficult end-of-life discussions. Code status designation, improving therapeutic communication, and timing of palliative care discussions (i.e. earlier versus later after diagnosis) were described as being essential in meeting HF patient needs for anticipatory guidance in the final stages of their lives. Supporting statements described nurses' recognition of the importance of "listening to what they say and what they understand" in order to "help them understand the progression of HF." All of these exemplars illustrate the importance of being more confident and comfortable in their ability to begin difficult conversations early.

Barriers to incorporate information

"Not enough time and discomfort" – was the prevailing theme in looking at barriers to practice implications. Time restraints were overwhelmingly the major obstacle described in implementing the information into practice. Nurses expressed the lack of time available to have

such difficult conversations and unwillingness to initiate a conversation if they cannot give patients and their family members the needed time. Other barriers included lack of a palliative care program, providers who avoid the subject, and ambiguity regarding RN's role and responsibilities. A clear message reflected nurses' discomfort and lack of experience in initiating a conversation on the topic of palliative care for HF patients and their families.

Recommendations for change

"Need for a palliative care support team"- was a recurring theme in their narratives, and encompasses suggested changes to current staff education on HF. Nurses suggested adding a palliative care support team to support their units, and ideally having hospital educators inform all staff nurses about Team availability and support. Other suggested changes to current clinical staff educational practices, included further easily accessible educational resources for nurses, and additional personalized information material made available for patients and their families.

Palliative care is such a meaningful topic that it deserves time and attention. Since nurses do not feel they have the time to have these conversations, they support the need for a palliative care team who can dedicate the time. Other suggestions, if having a palliative care team is not a viable option, included creating a "CHF education position" or training "1-3 nurses to learn how to have these crucial conversations with patients" this way patients would be able to discuss their quality of life (QOL), and understand their spoken wishes when it comes to death and dying.

Essential Findings

"Listen and meet the patients where they are" at each moment in their disease process was the final synthesized essence or "take away" message from this QI project. Recognizing

that HF is a serious disease that is likely to lead to their eventual demise, the importance of really listening, hearing their concerns, and being prepared for difficult conversations is essential to nursing practice. “It is a subject that needs more attention and better multi-disciplinary coordination” and nurses need to know that HF patients need “supportive care no matter the stage.” A clear practice implication voiced throughout the project intervention and findings was: “advocate for your patient” and be informed of the “difference between palliative care and hospice care.” In that way, HF patients can receive accurate information and needed support during their greatest time of vulnerability.

Dissemination

Findings from this QI project were used to create a pamphlet detailing nurses’ intent to use end-of-life heart failure education in practice. Narrative comments were used to illustrate and describe future education needs in support of this topic for nurses. The final pamphlet, synthesizing the findings of this QI project, have been distributed to administration and educators at the hospital. The sole intent of this project was to improve the process of HF and palliative care education. Additionally, project findings will be transformed into a scientific poster presentation, for the 2016 Alaska Nurse Practitioner Association Conference in Anchorage, Alaska. A manuscript will also be submitted for publication to the *Journal of Nursing Education and Practice* thereafter.

Discussion

Palliative care in HF patients is an under-researched topic. There continue to be gaps in the literature, specifically misconceptions of palliative care, unmet communication and education needs of nurses, and lack of readily available care pathways that support nurse

decision making (Kavalieratos et al., 2014; Pere, 2012; Hupcey, Penrod, & Fogg, 2009; Ivany & While, 2013; McIlvennan & Allen, 2016). These same gaps were identified in this QI project. Nurses had misconceptions about palliative care; thinking it was synonymous with hospice, which prevented them from offering or feeling comfortable talking about supportive services to HF patients and family members. They requested more education about the topic for themselves and also more written material available for patients. Nurses reported unmet communication and educational needs again requesting more information on how to initiate difficult conversations and how to handle fear of offending a patient or family member. Some nurses were also uncertain of their role in addressing end-of-life concerns and questioned if it was within their scope of practice. Nurses requested care pathways to guide advanced care planning discussions and decision making. Given the opportunity to practice a conversation (role-playing) built confidence and clearly increased comfort with the topic.

One way to improve education about palliative care is to offer opportunities for nurses to practice discussions centered around advanced care planning using active learning strategies. This project successfully highlighted how case studies, in addition to "reflection-in-action", can be used to elicit practice changes. Nurses plan to use the information to strengthen their practice by being proactive in care management by initiating conversations early and assessing patient understanding of HF. This was evident in the emergent theme *"Be more sensitive and listen."*

Another theme consistent with the literature is *"Not enough time and discomfort."* Over half (15 out of 26) of the participants in this study had never received end-of-life care education. The need to educate, starting in nursing school and continuing in practice with

professional development, will increase palliative care awareness and integrate care pathways that support shared decision making. Nurses are in a position to support, listen, and empower patients to express their needs and wishes. By offering continued education and making improvements on the process of nurse education; staff nurses on all units will gain skills and knowledge they need to empower patients.

An insight gained from this QI project was the importance of evaluating current education on palliative care and HF. The hospital does not currently provide structured core palliative care education to primary care staff nurses and does not have a palliative care team available. “Need for a palliative care support team” was a frequent comment, one participant wrote “The barrier is lack of a palliative care program at our hospital” and another participant wrote that the hospital should “have a designed team to discuss end-stage HF/palliative care; educate and empower nurses; and incorporate palliative care in CHF certification.” Currently, the hospital is considering CHF certification and has dedicated time, energy and financial resources to improving CHF education for nurses to better meet patient needs. Reporting the information from this study will support the need for a palliative care team. Guidelines for national standard of practice to reduce incidence of hospital readmission for geriatric patients include clear communication, reassure, education, and foster care support (U.S. Department of Health and Human Services, 2012). Institutional guideline recommendations include improved staff education and interprofessional care planning. The institutional guidelines fail to mention nurses’ role to advocate for a palliative care consult but include HF/cardiology and geriatric consultations (U.S. Department of Health and Human Services, 2012). Joint Commission has included performance measures to hospital certified programs. One of the six performance

measures to obtain the advanced certification heart failure (ACHF) include discussion of advance directives/advanced care planning documentation (Joint Commission, 2015)

"Listen and meet the patient where they are" was another theme that highlighted the importance of allocating adequate time to listen to patients and family. This allows understanding of their perceived notions about the diagnosis, care goals, and end-of-life expectations. That leads to better intervention on the practitioner's side; in relation to where the patient and family are.

Limitations

Currently there are no standardized survey tools available to evaluate nurses' understanding of palliative care needs of HF patients and their understanding of the topic. This was a limitation of this study and an area for future development. The findings from the five question survey should be viewed with caution as it was designed based on available evidence where reliability and validity in the instrument were not confirmed. The sample size was small and participants self-selected, which limits the capacity to generalize the conclusions to the body of nurses and medical practitioners.

Conclusion

Primary care nurses have many roles when caring for patients and their families suffering the effects of advanced heart failure. In addition to physical comfort and care, providing relevant and timely information, is a large part of that role. Though time intensive, being able to speak comfortably and authentically with knowledge about end-of-life care is a critical skill that can be learned and practiced. One way to increase the likelihood of engaging in

these needed conversations is to provide nurses with opportunities to role play or stimulate these difficult dialogues in a safe and supportive environment.

The *Plan-Do-Check-Act* cycle has proven to be effective in engaging and delivering education to staff nurses. The '*Plan*' phase identified the problem as lack of education on HF and palliative care while the '*Do*' phase incorporated active learning in the process of delivering evidence-based education on HF and palliation. Through the analysis process of the '*Check*' phase recommendations for a palliative care team and needed information on the progression of HF, for both nurses and patients emerged. The final phase '*Act*' supported the dissemination of findings to be presented to hospital administration. Recommendations for increased dissemination of educational information on HF and palliative care for all staff nurses followed. Findings have clearly illustrated the *Plan-Do-Check-Act* method has been effectively used in this clinical quality improvement project aimed at understanding and refining staff education. This project met the goals of improving nurses understanding of HF, timing of palliative care conversations, and describing their intent to use the information in practice.

Impact on Practice

Communication is foundational to nurse caring, regardless of the setting. Palliative care is an underutilized modality in patients with end-stage HF. This is secondary to lack of adequate education on the topic and lack of access. The aim of this project was to provide an educational opportunity to nursing staff on the topics of end-stage HF and the role of bedside practitioners in initiating palliative care discussions in this vulnerable population. Creating a palliative care team and providing more educational opportunities to bedside practitioners on how to initiate

dialogue about palliative care in end-stage HF would be a great value to the patient and their family members.

As a Master's prepared nurse educator and future clinical hospital educator, the author strives to integrate evidence-based education on palliative care into future staff development programs using the *Plan-Do-Check-Act (PDCA)* framework. One way to describe how this information becomes routine is the Normalization Process Theory (NPT). This theory is concerned with the implementation of everyday practices and how they become routine, or embedded in their social contexts (integration) (May & Finch, 2009). May and Finch (2009) describe actors, in this case nurses, and ask four questions about how HF and PC would be integrated into everyday practice. What is the work (assessing all HF patients for PC services)? Who does the work (nurses)? How does the work get done (difficult dialogues addressing advanced planning)? And how is the work understood (nurse beliefs about HF and PC)? (May & Finch, 2009). Using the NPT, HF and PC education can become embedded in the social context of nursing care.

Offering palliative care to end-stage HF patients and their families requires teaching staff nurses how to begin those difficult discussions. This can be a key to practice nurse caring in action, thereby encouraging those difficult dialogues as a needed part of nursing practice. Watson's (2009) seminal work on caring supports this practice of caring in action as essential to patient and family health and wellbeing. Nurses are central to providing sensitive and meaningful care for patients and their families experiencing advanced heart failure. They can change the culture of hospitals by really being present and authentically listening to patients and their concerns of living with HF; a key finding in this study.

Based on knowledge gained from this QI project, all nurses, particularly in critical care areas, can benefit from learning how to encourage difficult dialogues as a method to improve care in Advanced HF. Communication guidelines can be created to direct these important discussions. Finally nurse educators practicing in an expanded role in clinical care, are in a key position to champion such recommendations, provide guidance, and encourage all nurses to really *"Listen and meet the patients where they are."*

References

American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. (2013). ACCF/AHA Guidelines for the management of heart failure. *Circulation*. *128*, e240-e327. doi: 10.1161/CIR.0b013e31829e8776

American Heart Association. (2015). Classes of heart failure. Retrieved from http://www.heart.org/HEARTORG/Conditions/HeartFailure/AboutHeartFailure/Classes-of-Heart-Failure_UCM_306328_Article.jsp

Bui, A. L., Horwich, T. B., & Fonarow, G. C. (2011). Epidemiology and risk profile of heart failure. *Nature Reviews. Cardiology*, *8*(1), 30–41. http://doi.org/10.1038/nrcardio.2010.165

Cheung, W. Y., Schaefer, K., May, C. W., Glynn, R. J., Curtis, L. H., Stevenson, L. W., & Setoguchi, S. (2013). Enrollment and events of hospice patients with heart failure vs. cancer. *Journal of Pain and Symptom Management, 45*(3), 552-560.

De Chesnay, M. (2014). Qualitative designs and methods: Nursing research using data analysis : Qualitative designs and methods in nursing (pp. 7-9). New York, US: Springer Publishing Company.

Dewing, J. (2010). Moments of movement: Active learning and practice development. *Nurse Education in Practice*, 10(1), 22-26. doi:10.1016/j.nepr.2009.02.010

Go, A. S., Mozaffarian, D., Roger, V. L., Benjamin, E. J., Berry, J. D., Borden, W. B., . . . Turner, M. B. (2012). Heart disease and stroke statistics--2013 update: A report from the american heart association. *Circulation, 127*(1). doi:10.1161/cir.0b013e31828124ad

Goodlin, S. J., Quill, T. E., & Arnold, R. M. (2008). Communication and decision-making about prognosis in heart failure care. *Journal of Cardiac Failure, 14*(2), 106-113. doi:10.1016/j.cardfail.2007.10.022

Goodlin, S. J. (2009). Palliative care in congestive heart failure. *Journal of the American College of Cardiology, 54*(5), 386-396. doi:10.1016/j.jacc.2009.02.078

Heidenreich, P. A., Albert, N. M., Allen, L. A., Bluemke, D. A., Butler, J., Fonarow, G. C., . . . Trogdon, J. G. (2013). Forecasting the impact of heart failure in the united states: A policy statement from the american heart association. *Circulation: Heart Failure, 6*(3), 606-619. doi:10.1161/hhf.0b013e318291329a

Holly, C. (2014). *Scholarly inquiry and the DNP Capstone*. New York, NY: Springer Publishing.

Horton-Deutsch, S., & Sherwood, G. (2008), Reflection: An educational strategy to develop emotionally-competent nurse leaders. *Journal of Nursing Management*, *16*: 946–954. doi: 10.1111/j.1365-2834.2008.00957.x

Howlett, J., Morrin, L., Fortin, M., Heckman, G., Strachan, P. H., Suskin, N., . . . Lewanczuk, R. (2010). End –of-life planning in heart failure: It should be the end of the beginning. *Canadian Journal of Cardiology*, *26(3),* 135-141.

Hupcey, J. E., Penrod, J., & Fogg, J. (2009). Heart failure and palliative care: Implications in Practice. *Journal of Palliative Care*, *12*(6), 531-536.

Ivany, E. & While, A. (2013). Understanding the palliative care needs of heart failure patients. *British Journal of Community Nursing*. *18*(9), 441-445.

Joint Commission (2015). Advanced certification heart failure performance measure implementation guide. Retrieved from http://www.jointcommission.org/assets/1/6/ACHFManual2015Oct.pdf

Jones, J., Nowels, C. T., Sudore, R., Ahluwalia, S., & Bekelman, D. B. (2015). The future as a series of transitions: Qualitative study of heart failure patients and their informal caregivers. *Journal of General Internal Medicine, 30*(2), 176-182. doi:10.1007/s11606-014-3085-5

Kavalieratos, D., Mitchell, E. M., Carey, T. S., Dev, S., Biddle, A. K., Reeve, B. B., … Weinberger, M. (2014). "Not the 'Grim Reaper Service'": An assessment of provider knowledge, attitudes, and perceptions regarding palliative care referral barriers in heart failure. *Journal of the American Heart Association: Cardiovascular and Cerebrovascular Disease, 3*(1), e000544. http://doi.org/10.1161/JAHA.113.000544

Kochanek, K. D., Xu, J. Q., Murphy, S. L., Miniño, A. M., & Kung, H. C. (2009). Deaths: Final data for 2009. *Natl Vital Stat Rep*. *60*(3). Hyattsville, MD: National Center for Health Statistics. 2011.

May, C., & Finch, T. (2009). Implementing, embedding, and integrating practices: An outline of normalization process theory. *Sociology, 43*(3), 535-554.

McIlvennan, C. K., & Allen, L. A. (2016). Palliative care in patients with heart failure. *BMJ*, *353*. doi: 10.1136/bmj.i1010

National Clinical Guideline Centre. (2010). Chronic heart failure: The management of chronic heart failure in adults in primary and secondary care. London: National Clinical Guideline Centre. Retrieved from http://guidance.nice.org.uk/CG108/Guidance/pdf/English

Pere, K. (2012). Developing nursing expertise in caring for older advanced staged heart failure

Patients and their families- palliative and end-of-life care. *Canadian Journal of Cardiovascular Nursing, 22*(3), 12-17.

Popil, I. (2011). Promotion of critical thinking by using case studies as teaching method. *Nurse Education Today, 31*(2), 204-207. doi:10.1016/j.nedt.2010.06.002

Ross-Gordon, J. (2011). Research on adult learners: Supporting the needs of a student population that is no longer nontraditional. *Peer Review*, *13*(1), 26-29.

Ryan-Nicholls, K., & Will, C. I. (2009). Rigour in qualitative research: Mechanisms for control. *Nurse* Researcher, *16*(3), 70-85.

Thorne, S., Kirkham, S. R., & Mac-Donald-Emes, J. (1997). Focus on qualitative methods. Interpretive description: A noncategorial qualitative alternative for developing nursing knowledge. *Research in Nursing & Health, 20*, 169-177.

U.S. Department of Health and Human Services. Agency for Healthcare Research and Quality. (2012). Heart failure: early recognition, and treatment of the patient at risk for hospital Readmission. In Evidence-based geriatric nursing protocols for best practice (Guideline Summary NGC-9714). Retrieved from http://www.guideline.gov/content.aspx?id=43926&search=congestive+heart+failure#Section424

Watson, J. (2009). Caring science and human caring theory: Transforming personal and professional practices of nursing and healthcare. *Journal of Health and Human Services Administration, 31*(4), 466-482.

Whellan, D. J., Cox, M., Hernandez, A. F., Heidenreich, P. A., Curtis, L. H., Peterson, E. D., & Fonarow, G. C. (2012). Utilization of hospice and predicted mortality risk among older patients hospitalized with heart failure: Findings from GWTG-HF. *Journal of Cardiac Failure, 18*(6), 471-477.

World Health Organization. (2015). WHO definition of palliative care. Retrieved from http://www.who.int/cancer/palliative/definition/en/

Yancy, C. W., Jessup, M., Bozkurt, B., Butler, J., Casey, D. E., Drazner, M. H., . . . Wilkoff, B. L. (2013). 2013 ACCF/AHA guideline for the management of heart failure. *Journal of the American College of Cardiology*. *62*(16), e147-e239. doi:http://dx.doi.org/10.1016/j.jacc.2013.05.019

Appendix A

New York Heart Failure Classification System

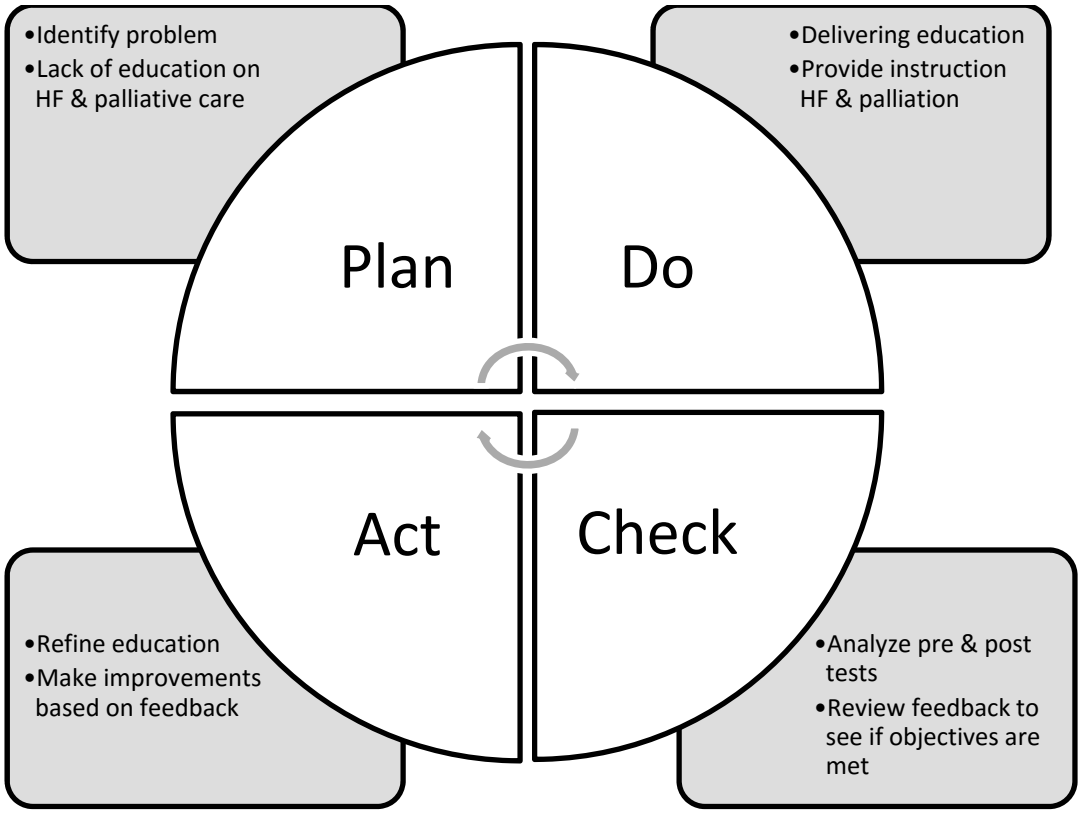
Class	Patient Symptoms
I	No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea (shortness of breath).
II	Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea (shortness of breath).
III	Marked limitation of physical activity. Comfortable at rest. Less than ordinary activity causes fatigue, palpitation, or dyspnea.
IV	Unable to carry on any physical activity without discomfort. Symptoms of heart failure at rest. If any physical activity is undertaken, discomfort increases.

Class	Objective Assessment
A	No objective evidence of cardiovascular disease. No symptoms and no limitation in ordinary physical activity.
B	Objective evidence of minimal cardiovascular disease. Mild symptoms and slight limitation during ordinary activity. Comfortable at rest.
C	Objective evidence of moderately severe cardiovascular disease. Marked limitation in activity due to symptoms, even during less-than-ordinary activity. Comfortable only at rest.
D	Objective evidence of severe cardiovascular disease. Severe limitations. Experiences symptoms even while at rest.

Retrieved from http://www.heart.org/HEARTORG/Conditions/HeartFailure/AboutHeartFailure/Classes-of-Heart-Failure_UCM_306328_Article.jsp#.Vi2e8DZdHIU

Appendix B

Plan-Do-Check- Act Cycle for QI Project



Appendix C

Consent Form

Consent Form

Title of Study: END-OF-LIFE HEART FAILURE EDUCATION WITH STAFF NURSES; A QUALITY IMPROVEMENT PROJECT

Principal Investigator:
Carisa M. Battah
Master's of Nursing Education Student
University of Alaska Anchorage
(907) 903-1422
cmbattah@alaska.edu

Description:
You are invited to participate in a quality improvement study at Alaska Regional Hospital to describe nurses' use of best practices to communicate palliative care options to patients with advanced heart failure.

End-of life care refers to the care given to patients with an incurable progressive terminal illness such as heart failure. The purpose of this study is to educate staff nurses in the care of patients with advanced heart failure poor functional status, about palliative care options.

Study Procedure:
You are being asked to participate in this one-hour interactive educational training session. During this time, you will be given the opportunity to learn new skills, collaborate with others in dialogue, and discuss case studies provided specific to situation.

Confidentiality and Voluntary Nature of Consent
Confidentiality of all information and data will be maintained. Participation in this educational opportunity is completely voluntary. The hospital is supportive of this voluntary educational opportunity. You are free to leave the educational training at any time you without penalty.

Risks and Benefits:
There are no known risks involved in this quality improvement project. Benefits may include continued education on HF and palliative care, as well as improved quality of care for patients with end-stage HF.

Contact Information:
If you have any questions regarding this research project, feel free to contact me at: Carisa Battah (907) 903-1422 or cmbattah@alaska.edu, or my research advisor Dr. Elizabeth Predeger (907) 786-4575. If you have questions about your rights as a research subject, please contact Sharilyn Mumaw, UAA Research Integrity and Compliance Officer at (907) 786-1099.

Consent:
By reading this letter and completing the pre and post surveys you have consented to participate in this study. Again, you have a choice to participate and your participation is completely voluntary. The information you provide will be used to improve future educational opportunities about end-of-life nursing care for end-stage heart failure patients.

Appendix D

IRB Approval Letter

Research & Graduate Studies
University of Alaska Anchorage

3211 Providence Drive
Anchorage, Alaska 99508-4614
T 907.786.1099, F 907.786.1791
www.uaa.alaska.edu/research/ric

DATE:	February 10, 2016
TO:	Carisa Battah, BSN
FROM:	University of Alaska Anchorage IRB
PROJECT TITLE:	[842841-2] End-of-life Heart Failure Education with Staff Nurses: A Quality Improvement Project
SUBMISSION TYPE:	Amendment/Modification
ACTION:	APPROVAL OF EXEMPT REVIEW
DECISION DATE:	February 10, 2016
EXPIRATION DATE:	February 9, 2017

Your Institutional Review Board (IRB) proposal meets the U.S. Department of Health and Human Services requirements for the protection of human research subjects (45 CFR 46 as amended/revised) as being exempt from full Board review. In keeping with the usual policies and procedures of the IRB, your research project is approved with suggested revisions. Thank you for a copy of these revisions.

Therefore, you have permission to begin data collection for your study. If this study goes beyond the expiration date on this letter, you will need to submit a Progress Report for approval to continue the research. Please submit a Final Report at the end of your project.

Please report promptly proposed changes in the research protocol for IRB review and approval.

On behalf of the Board, I wish to extend my best wishes for success in accomplishing the objectives of your study.

Sharilyn Mumaw, M.P.A.

Research Integrity & Compliance Officer

Appendix E

Permission Letter

ALASKA REGIONAL
HOSPITAL

December 7, 2015

Attn: Institutional Review Board
Office of Research and Graduate Studies
University of Alaska Anchorage
3211 Providence Drive
Anchorage, AK 99508

Dear IRB Members,

This memo certifies that Carisa Battah has shared and discussed the study titled Quality improvement project for educating staff nurses about patients with end-of-life heart failure with myself and/or a representative of our agency, Alaska Regional Hospital. The purpose of this quality improvement project is to provide evidence-based information to staff nurses about the classification systems of heart failure and palliative care options for patients with end-stage heart failure. This memo also confirms that Carisa Battah has permission to conduct the above stated study at Alaska Regional Hospital for the School of Nursing, Master's of Nursing Degree graduate project at University of Alaska Anchorage.

I do not have concerns about the proposed study based on communication with Carisa Battah. The agency supports the research plan and approves of the project, which includes recruitment of participants and data collection, through our agency.

Sincerely,

Rebecca Unwin

Rebecca Unwin
Director of Critical Care
Alaska Regional Hospital
907-264-1071
Rebecca.unwin@hcahealthcare.com

Appendix F

Pre- Education Survey

Heart Failure and Palliative Care Education

Please complete the following five questions.

Question	True	False
1. Palliative care should be reserved for those who are expected to die over a short period of time (days or weeks).		X
2. Most heart failure patients have sufficient understanding and education of their condition and treatment options.		X
3. When it is clinically obvious that an end-stage heart failure patient is expected to die, and that patient has a DNR order, then the nurse should initiate a discussion about inactivation of their internal cardiac defibrillator (ICD).	X	
4. Final treatment options, living wills, and advance directives should be discussed with patients and family members when they are classified as NYHA class III or IV.	X	
5. DNR/DNI status makes a patient ineligible for interventions like dialysis and vasopressor support (i.e. Levophed).		X

Appendix G

Post- Education Survey: Heart Failure and Palliative Care Education

Please complete the following five questions.

Question	True	False
1. Palliative care should be reserved for those who are expected to die over a short period of time (days or weeks).		
2. Most patients have sufficient understanding and education of their condition and treatment options.		
3. When it is clinically obvious that an end-stage heart failure patient is expected to die, and that patient has a DNR order, then the nurse should initiate a discussion about inactivation of their internal cardiac defibrillator (ICD).		
4. Final treatment options, living wills, and advance directives should be discussed with patients and family members when they are classified as NYHA class III or IV.		
5. DNR/DNI status makes a patient ineligible for interventions like dialysis and vasopressor support (i.e. Levophed).		

Please describe how you plan to use the information from this learning activity to strengthen your practice?

_____

_____

Please indicate barriers that make it difficult for you to implement what you have learned?

_____

_____

What changes would you recommend to current education given to nurses at ARH about end-stage heart failure and palliative care?

_____

_____

How many years have you been a nurse? _____

Have you had any previous end-of-life care education? _____

Is there one thing that stands out about this educational training? What was the take away message?

_____

_____

_____

Please add any additional comments that would be helpful in care of chronic HF patients. All suggestions and feedback are welcomed. Thank you for attending this educational seminar.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Appendix H

Case Study #1

A 68-year-old woman was admitted for shortness of breath at rest, orthopnea, and general fatigue. She gained 10 pounds of fluid in the last 6 days and cannot walk upstairs at night where her bedroom is located. Her husband reported that she sleeps in a recliner and wakes up several times (about 4 times) during the night because she cannot breathe and feels like she is drowning. This has been a strain on their relationship and only been getting worse over the past few months. She doesn't have the energy to quilt anymore which used to bring her great joy. Her husband is growing frustrated because their life has changed so much. They don't engage with their friends, they don't take the dog walking together, they rarely see the grandchildren and they haven't had sexual relations in months. He is frustrated but would do anything to keep her alive.

They went to the CHF clinic this morning to get her pacemaker checked as she thought that this was the reason that she was so tired. It was placed 1 month ago and she hasn't felt good since. During the outpatient appointment her blood pressure was checked 89/62 mmHg, HR 105, RR 28 and temperature 98.2 F. Her pulse oximeter revealed a value of 88% on room air. She had crackles throughout both lungs and 3+ pitting edema on both legs. Other co-morbidities include a history of hypertension, hyperlipidemia, atrial fibrillation, pre-diabetes, and obesity.

Her husband was told to drive her over to the hospital as a direct admission. This is the patient that you receive. During your admission documentation you ask about any advanced directives and if she would like palliative care services. The first thing she tells you is that "I'm tired and I'm done. They told me that I wasn't eligible for the transplant list. I just don't know why I am not getting better. This is my third admission this year and the medications just don't seem to be working anymore."

Pending lab work
BMP, BNP, Lipid panel, renal panel

New Orders: Echo, EKG, telemetry, oxygen, fluid restriction, cardiac diet, accu checks

Role #1 patient: You are playing the patient. You may decide what this patient requests for services (DNR/DNI, full code, use of vasopressors, palliative care, comfort care, etc) based on your experience taking care of similar patients. Patient preference varies widely from person to person. You will also decide the mental capacity, willingness to learn, interventions requested, level of understanding about procedures and medications, and level of support needed at this time. Please take a minute to reviewing her history and determine her wishes as the nurse will be asking you about your preferences.

Role #2 nurse: You are the nurse taking care of this patient. You recognize that she may benefit from further questioning about her understanding of HF and assess her palliative care needs. How do you start this conversation? Please take a minute to gather your thoughts and prepare yourself for engaging in an end-of-life decision making conversation.

Appendix I

Case Study #2

A 74-year-old male was admitted two days ago for acute decompensated heart failure. He had symptomatic hypotension on arrival to the unit and was started on a continuous dobutamine infusion at 2.5 µg/kg/min for the first hour with no loading dose, then increased to 5 µg/kg/min. The infusion has been going for over 48 hours. It is day three and you are the nurse receiving report on this patient.

Report from the night nurse: "He opens his eyes to voice but has no energy to do more than that and rarely has the energy to talk. You will need to make sure that you turn him every 2 hours as his coccyx is looking slightly red but still blanchable. We spoke with his family in Maine yesterday and they all should arrive this morning to see him. His code status is DNR/DNI. I sure hope he lasts that long. I heard the cardiologist speaking to his family on the phone about his prognosis but didn't mention anything about deactivation of his ICD. I know that was a problem before he was hospitalized; it kept going off. I had a hard time maintaining his blood pressure over the night. His lowest bp was 82/56mmHg and his highest was 96/64mmHg. His urine output was a very low 180 ml in 12 hours and his labs just came back BUN: 58 mg/dL and Creat: 5.2 mg/dL. I don't know if we are thinking about dialysis. His wife should be here at 8 am for a family meeting."

Role #1 patient: You are the wife of the patient and his power of attorney. You may decide what this patient requests for services (code status change, dialysis, continue on dobutamine, ICD deactivation, palliative care services) based on your experience taking care of similar patients and in similar family situations. Patient preference varies widely from person to person. You will decide the mood of the family member, the level of engagement, the willingness to learn, the level of understanding about procedures and medications, and the level of support needed at this time. Please take a minute to reviewing his history and determine his wishes as the nurse will be asking you about his preferences.

Role #2 nurse: You are the nurse taking care of this patient. You recognize that the family member is present and needs support in future decision making. They may benefit from further questioning about understanding of HF and needs for palliative care services. How do you start this conversation? Please take a minute to gather your thoughts and prepare yourself for engaging in an end-of-life decision making conversation.

Appendix J

'Do' Phase Educational Intervention Lesson Plan- 60 minutes

Topic	Activity	Time (minutes)
Introduction	PowerPoint- review consent	2
	Complete Pre-Survey	3
HF Classification Systems	PowerPoint & Handout Visual of NYHA table	10
End-of-life communication	PowerPoint Presentation Visual of Care Model	10
Palliative Care	Case Study #1	10
HF & ICD deactivation	Case Study #2	10
Debrief	Review learning from case studies Reflection (think about experience and learning activity)	10
Closing Remarks	Complete Post-Survey with feedback	5
Total Time		60 minutes

Appendix K

Themes from QI Project

Table 2

How Nurses Plan to implement information, Barriers, and Recommendations

Plan to use information to strengthen practice: Supporting Statements "Be more Sensitive and Listen"
"Be more sensitive to patients and family needs. Listen to what they say & what they understand."
"I'll try to be more confident and not afraid to have the necessary conversations."
"On admission and discharge I will be better at approaching the idea of educating end-of-life HF."
"I hope to feel more comfortable talking about palliative care with my patients now that I have practiced it."
"I will initiate conversations with my patient's with HF in a non-threatening, supportive way."
Barriers to implementing into practice: Supporting Statements "Not enough time and discomfort"
"Not enough time when working with the patient to take the time to sit down and have this conversation."
"Not enough time to talk/listen to patients."
"Unwillingness of the patient/not educated about options. Uncomfortable with the topic."
What changes would you recommend to current education: Supporting Statements "Need for a palliative care support team"
"Have a designated team to discuss end-stage HF/palliative care; educate and empower nurses; incorporate palliative care to CHF certification."
"In addition to CHF core measure, make a HF educator."
"Discussion about what resources are available, more practice in discussing end-of-life topics."
"More outreach on palliative care."
Take away message: Supporting Statements "Listen and meet the patients where they are"
"Meet the patient where they are!"
"It is a subject that needs more attention and better muti-disciplinary coordination. I take away my need for more info in this area.'
"Initiating conversations with patients as an educational opportunity."
"Most don't think CHF and end-of-life. This gives additional opportunities to broaden the scope of palliative care. The discussion should start early in the diagnosis and establish a strong support system."
"Heart failure is a serious terminal disease and we need to prepare patients to manage and plan their eventual demise."